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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,179

08/21/2006

Guillermo C. Bazan

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EXAMINER

WALTERS JR, ROBERT S

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

12/16/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,179	<b>Applicant(s)</b> BAZAN ET AL.	
	<b>Examiner</b> ROBERT S. WALTERS JR	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/22/2006, 11/13/2006, 5/19/2009</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of Application***

Claims 1-20 are pending. Claims 10 and 13-20 are withdrawn. Claims 1-9, 11 and 12 are presented for examination.

### ***Election/Restrictions***

Applicant's election of claims 1-9, 11 and 12 in the reply filed on 11/30/2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1, 2, 4 and 6-8 are rejected under 35 U.S.C. 102(a) as being anticipated by Huang et al. ("Novel Electroluminescent Conjugated Polyelectrolytes Based on Polyfluorene" Chem. Mater. 2004, 16, 708-716).

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Regarding claims 1, 2, 4 and 6-8, Huang teaches a method of forming adjacent layers of conjugated polymers on a substrate (pg 709, 2nd column, LED Fabrication and Characterization Section, the double-layer device) comprising:

- (a) providing a first solution comprising a water-soluble cationic conjugated polymer (the polyelectrolytes, see P4, page 711) and a polar solvent, such as methanol (pg 709, 2nd column, LED Fabrication and Characterization Section) or water (pg 716, 2nd column, line 8-top of the Conclusion section);
- (b) providing a second solution comprising a second conjugated polymer (such as MEH-PPV) in a second solvent (see pg 709, 2nd column, LED Fabrication and Characterization Section);
- (c) depositing a first layer of the MEH-PPV solution onto a substrate by spin-casting (see pg 709, 2nd column, LED Fabrication and Characterization Section);
- (d) depositing a second layer of the polyelectrolyte on the first layer by spin-casting (pg 709, 2nd column, LED Fabrication and Characterization Section);

wherein the polymer deposited in the first layer does not dissolve in the solvent deposited in the second layer (note MEH-PPV is not soluble in methanol, see also pg 716, 2nd column, line 8-top of the Conclusion section).

Huang teaches all the critical limitations of claims 1, 2, 4 and 6-8, therefore Huang anticipates these claims.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Hsu (U.S. PG PUB No. 2003/0222250).

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Regarding claim 3, Huang teaches all the limitations of claim 1, but fails to teach the inclusion of a detergent. However, Hsu teaches a method of preparing light-emitting diodes (abstract) by preparing a mixture comprising an electrically conducting polymer and a surfactant (abstract), comparable to a detergent. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Huang's method by including a detergent in the solution with the conjugated polymer. One would have been motivated to make this modification as Hsu teaches that the inclusion of the surfactant facilitates coating of the polymer, improves device performance, and facilitates the use of flexible substrates (0011).

3. Claims 5, 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Yu et al. (U.S. PG PUB No. 2004/0094768).

Regarding claims 5, 9, 11 and 12 Huang teaches all the limitations of claims 1 and 6, but fails to teach the substrate being a film or rigid. However, Yu teaches method for making PLED's (abstract and 0059) by applying polymers by drop-casting or ink jet printing (0058) to substrates that can be rigid or films (0054). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Huang's method by applying their polymer materials to substrates that can be rigid or films, as taught by Yu. One would have been motivated to make this modification as it would have been obvious to one ordinary skill in the art at the time of the invention that Huang's polymers could readily be applied to varied substrates that are rigid or films. Further, the substitution of these substrates would provide a predictable result, namely a method of fabricating a PLED.

***Conclusion***

Claims 1-20 are pending.

Claims 10 and 13-20 are withdrawn.

Claims 1-9, 11 and 12 are rejected.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT S. WALTERS JR whose telephone number is (571)270-5351. The examiner can normally be reached on Monday-Friday, 8:00am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Barr/  
Supervisory Patent Examiner, Art Unit  
1792

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/ROBERT S. WALTERS JR/

December 15, 2009

Examiner, Art Unit 1792